AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for detecting tumor cells and their precursor cells in uterine cervical smears comprising:

a) contacting the cells with color marked reagents that specifically bind to at least two molecular markers of cervical cancer,

b) simultaneously detecting color signal intensities from said markers,

c) combining the color signal intensities, and

d) measuring and accrediting the combined color signal intensities, thereby detecting tumor cells and their precursor cells in uterine cervical smears.

2. (Cancelled)

3. (Previously Presented) The method according to claim 1, wherein one of the at least two molecular markers is selected from the group consisting of her2/neu, p16, p53, MN, mdm-2, bcl-2, EGF receptor, and specific DNA from the HPV subtypes 6, 11, 16, 18, 30, 31, 33, 35, 45, 51 and 52.

4. (Previously Presented) The method according to claim 1, wherein the at least two molecular markers are selected from the group consisting of her2/neu and p16EGF-R and p16, p53 and her2/neu, her/neu and mdm-2, bcl-2 and p16, bcl-2 and her2/neu, or p16 and p53.

5. (Previously Presented) The method according to claim 1, wherein three molecular markers of cervical cancer are detected.

6. – 11. (Cancelled)

12. (Previously Presented) The method according to claim 5, wherein at least one of the three molecular markers is selected from the group consisting of her2/neu, p16, p53, MN, mdm-2, bcl-2, EGF receptor, and DNA from the HPV subtypes 6, 11, 16, 18, 30, 31, 35, 45, 51 and 52.

13. (Previously Presented) The method according to claim 5, wherein at least two of the three molecular markers are selected from the group consisting of her2/neu and p16, EGF-R and p16, p53 and her2/neu, her2/neu and mdm-2, bcl-2 and p16, bcl-2 and her2/neu, and p16 and p53.

14. (Previously Presented) The method according to claim 1, further comprising automated diagnosis using a diagnostic expert system.

15. (Currently Amended) A method for detecting tumor cells and their precursor cells in uterine cervical smears comprising:

a) contacting the cells with color marked reagents that specifically bind to at least two molecular markers of cervical cancer,

b) simultaneously detecting color signal intensities from said markers at a first wavelength,

c) repeating said detection at a second wavelength,

d) combining the color signal intensities, and

e) measuring and accrediting the combined color signal intensities thereby detecting tumor cells and their precursor cells in uterine cervical smears.

16. (New) The method for detecting tumor cells and their precursor cells in a uterine cervical smear according to claim 1, which comprises:

a) contacting the cells with color marked reagents that specifically bind to at least two molecular markers of cervical cancer, wherein the detection of each of the markers alone is not a reliable indicator of the presence of tumor cells or their precursor cells in said uterine cervical smear;

b) simultaneously detecting color signal intensities from said markers within a single cell;

c) combining the color signal intensities; and

d) measuring and accrediting the combined color signal intensities, and comparing the combined and accredited signal intensities to a threshold value, wherein combined and accredited signal intensities above or below the threshold value reliably indicate the presence of tumor cells and/or their precursors in thereby detecting tumor cells and their precursor cells in the uterine cervical smear.

17. (New) The method for detecting tumor cells and their precursor cells in a uterine cervical smear according to claim 1, which comprises:

a) contacting the cells with color marked reagents that specifically bind to at least two molecular markers of cervical cancer, wherein the detection of each of the markers alone is not a reliable indicator of the presence of tumor cells or their precursor cells in said uterine cervical smear;

b) simultaneously detecting color signal intensities from said markers at a first wavelength,

c) repeating said detection at a second wavelength,

d) combining the color signal intensities, and

e) measuring and accrediting the combined color signal intensities, and comparing the combined and accredited signal intensities to a threshold value, wherein combined and accredited signal intensities above or below the threshold value reliably indicate the presence of tumor cells and/or their precursors in thereby detecting tumor cells and their precursor cells in the uterine cervical smear.